

PATENT COOPERATION TREATY

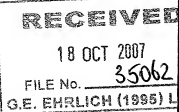
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From the INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

FENSTER & COMPANY,
INTELLECTUAL PROPERTY LTD.
Attn. Fenster, Paul
P.O. Box 10256
49002 Petach Tikva
ISRAEL



NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT AND
THE WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference

110/05400

Date of mailing
(day/month/year)

02/10/2007

(d)

FOR FURTHER ACTION

See paragraphs 1 and 4 below

International application No.

PCT/IB2006/052612

International filing date
(day/month/year)

31/07/2006

Applicant

DISC-O-TECH MEDICAL TECHNOLOGIES, LTD.

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the International Search Report.

Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes
1211 Geneva 20, Switzerland, Facsimile No.: (41-22) 338.82.70

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. Reminders

Shortly after the expiration of 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.

Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later); otherwise, the applicant must, within 20 months from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the International Searching Authority



European Patent Office, P.B. 5818 Patentaan 2
NL-2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,

Authorized officer

Chloe Pasturel

NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the *PCT Applicant's Guide*, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions, respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report and the written opinion of the International Searching Authority, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only (see *PCT Applicant's Guide*, Volume I/A, Annexes B1 and B2).

The attention of the applicant is drawn to the fact that amendments to the claims under Article 19 are not allowed where the International Searching Authority has declared, under Article 17(2), that no international search report would be established (see *PCT Applicant's Guide*, Volume I/A, paragraph 296).

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 110/05400	FOR FURTHER ACTION		see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/IB2006/052612	International filing date (day/month/year) 31/07/2006	(Earliest) Priority Date (day/month/year) 31/07/2005	
Applicant DISC-O-TECH MEDICAL TECHNOLOGIES, LTD.			

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 6 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of:

- ☒ the international application in the language in which it was filed
☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (See Box No. II)

3. ☒ Unity of invention is lacking (see Box No. II)

4. With regard to the title,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the drawings,

- a. the figure of the drawings to be published with the abstract is Figure No. 2
☒ as suggested by the applicant
☐ as selected by this Authority, because the applicant failed to suggest a figure
☐ as selected by this Authority, because this figure better characterizes the invention
- b. ☐ none of the figures is to be published with the abstract

INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2006/052612

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61L24/06 A61L24/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A61L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, WPI Data, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	LEWIS GLADIUS: "Properties of acrylic bone cement: State of the art review" JOURNAL OF BIOMEDICAL MATERIALS RESEARCH, vol. 38, no. 2, 1997, pages 155-182, XP002432739 ISSN: 0021-9304 page 158, paragraph VISCOSITY; table II	1-5, 18-23
A	LEWIS GLADIUS: "Toward standardization of methods of determination of fracture properties of acrylic bone cement and statistical analysis of test results" JOURNAL OF BIOMEDICAL MATERIALS RESEARCH, vol. 53, no. 6, 2000, pages 748-768, XP002432740 ISSN: 0021-9304 the whole document	1-23

-/-

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

10 May 2007

Date of mailing of the international search report

02/10/2007

Name and mailing address of the ISA/

European Patent Office, P.B. 5618 Patentlaan 2
NL - 2200 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+31-70) 340-2016

Authorized officer

FISCHER, J

INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2006/052612

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2004/019810 A (BIOMET INC [US]; SMITH DANIEL B [US]; EPPLEY BARRY L [US]) 11 March 2004 (2004-03-11) the whole document -----	1,4-16
A	WO 99/18894 A1 (PARALLAX MEDICAL INC [US]; PREISSMAN HOWARD [US]) 22 April 1999 (1999-04-22) examples 1,2 -----	1-5
A	FR 2 638 972 A1 (OSTEAL MEDICAL LABORATOIRES [FR]) 18 May 1990 (1990-05-18) the whole document -----	1-18
A	WO 2004/071543 A (SYNTHES AG [CH]; SYNTHES USA [US]; BISIG ADRIAN [CH]; BOHNER MARC [CH]) 26 August 2004 (2004-08-26) the whole document -----	1-18
A	EP 0 177 781 A1 (DRAENERT KLAUS) 16 April 1986 (1986-04-16) the whole document -----	1-18

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2006/052612

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-23, 25

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-23,25

A bone cement comprising an acrylic polymer mixture, the cement characterized in that it achieves a viscosity of at least 500 Pascal-second within 180 seconds following initiation of mixing of a monomer component and a polymer component and characterized by sufficient biocompatibility to permit in-vivo use.

2. claim: 24

A bone cement comprising: a polymer component; and a monomer component; wherein contacting the polymer component and the monomer component produces a mixture which attains a viscosity greater than 200 Pascal-second within 1 minute from onset of mixing and remains below 2000 Pascal-second until at least 6 minutes from onset of mixing.

3. claims: 26-27

A particulate mixture formulated for preparation of a bone cement, the mixture comprising:
(a) 60 to 80% polymer beads comprising a main sub-population characterized by an MW of 150,000 Dalton to 300,000 Dalton and a high molecular weight sub-population characterized by an MW of 3,000,000 Dalton to 4,000,000 Dalton; and
(b) 20 to 40% of a material which is non-transparent with respect to X-ray.

4. claim: 28

A method of making a polymeric bone cement, the method comprising:
(a) defining a viscosity profile including a rapid transition to a working window characterized by a high viscosity;
(b) selecting a polymer component and a monomer component to produce a cement conforming to the viscosity profile; and
(c) mixing the polymer component and a monomer component to produce a cement which conforms to the viscosity profile.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2006/052612

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 2004019810	A	11-03-2004	AU 2003262797 A1 US 2004044096 A1	19-03-2004 04-03-2004
WO 9918894	A1	22-04-1999	AU 1081999 A US 6231615 B1 US 6309420 B1	03-05-1999 15-05-2001 30-10-2001
FR 2638972	A1	18-05-1990	NONE	
WO 2004071543	A	26-08-2004	AU 2003203316 A1 BR 0317809 A CA 2516113 A1 EP 1592463 A1 JP 2006513760 T	06-09-2004 29-11-2005 26-08-2004 09-11-2005 27-04-2006
EP 0177781	A1	16-04-1986	JP 1875320 C JP 5088147 B JP 61068053 A	07-10-1994 21-12-1993 08-04-1986